

Claims 8 –16 have also been amended (from the 1st Preliminary Amendment.) The method claims have been amended to change the word “system” to “method” in the first line. In other matters applicant’s attorney has been requested to no longer refer to a ‘method’ as a ‘system.’ Applicant makes these changes herein.

Independent apparatus claim 25, like independent apparatus claims 4 and 5, has been amended to indicate that the dry chemical piping and line has been integrated with a fixed foam system wherein the fixed foam system is structured to discharge foam through the tank aperture used by the dry chemical system. A similar limitation was previously found in claim 31 which has now been cancelled.

Rejections Over Sharma, US Patent 5,573,068.

Sharma teaches apparatus for applying a foam blanket above the liquid in an enclosed tank or alternately for applying dry powder to the space above the liquid in an enclosed tank. The same Sharma apparatus is not, however, to be used for both foam and powder. This is clear in Sharma, for instance, from column 3 lines 18-24 and column 4 lines 9-15. Those passages indicate that the dimensioning of the apparatus will be different for applying foam, on the one hand, and for applying dry chemical powder, on the other hand. Those of skill in the art would also believe that the same dimensioned piping would not be used for applying both foam and dry powder.

Sharma gives eight examples. The first four examples deal with a fire of 10 square meters where the fire was extinguished with foam. The next four examples deal with a fire of 0.6 square meters where the fire was extinguished with dry chemical powder. Nowhere does Sharma explicitly teach apparatus or method for applying both dry powder and foam to the same fire.

There is only one sentence in all of Sharma that could be read as ambiguous in that regard, on column 4 lines 47–52:

The device for the present invention can be installed for foam/dry chemical powder injection either singly or in combination depending upon the degree of fire hazards to be protected and the fire protection arrangement, therefore, required to be provided in order to accomplish the higher fire safety levels.

The above sole sentence is cryptic and, applicant submits, non-enabling in regard to method and apparatus for applying both foam and dry chemical powder to a fire.

Nonetheless, applicant amends independent apparatus claims 4 and 5 to recite that means or apparatus of the instant invention for creating a foam film blanket and for discharging dry chemical into the tank space are both associated with the same opening communicating with the space. A preferred embodiment for this apparatus is illustrated in Figure 5, Figure 6 and Figure 7. There is no teaching or suggestion in Sharma for utilizing one opening communicating with the space above the liquid in the enclosed tank for associating both means for creating the foam blanket and means for discharging dry chemical into the space.

Claims 4 and 5 being allowable, claims that depend thereon are also allowable, without more.

Independent Method Claims 1 and 8 and 32

Claim 1 recites establishing a foam blanket over at least 90% of the surface of the liquid within the tank and discharging dry powder into a space between the roof and said blanket. Claim 8 recites discharging foam into a cavity above the liquid below the fixed roof and, after at least 2/3 of the way through an NFPA recommended application rate duration procedure guideline for the foam attack, discharging dry chemical into the cavity. Claim 32 recites, subsequent to the establishment of a foam blanket on the liquid in the tank, discharging dry chemical into the space below the roof above the blanket.

Sharma is devoid of any teaching or suggestion as to how to combine a foam and dry chemical attack in the case of a fire in a tank with a fixed roof. The Examiner asserts that Sharma can be presumed to know applying a foam blanket regulated by NFPA standards. Granting that for the purpose of argument herein, there is yet no hint of a teaching as to how to effectively incorporate a dry chemical attack with that creation of a foam blanket. NFPA does not so teach. No such teaching is pointed to in Sharma. Sharma does not anticipate, therefore, independent method claim 1, independent method claim 8 or independent method claim 32. Claims 2 and 3, 9-16 and 33-35 that depend, respectively, from claims 1, 8 and 32 are thus allowable without more.

Further Comments Re Certain Dependent Claims.

Since Sharma contains no teaching as to how to coordinate a dry powder attack with the creation of a foam blanket in a tank with a fixed roof, Sharma also contains no teaching or

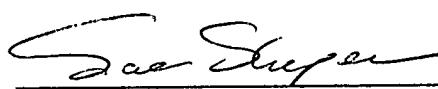
suggestion to discharge a dry chemical in the last 10 minutes of the NFPA procedure guideline, or after at least 40 minutes of foam application. Sharma contains no teaching or suggestion to discharge a dry chemical through at least one tank vent. Such limitations are covered in independent claims 2, 3, 9, 11 and 12.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Sue Z. Shaper, Applicants' Attorney at 713 550 5710 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date



Sue Z. Shaper

Reg. No. 31663

Sue Z. Shaper
1800 West Loop South, Suite 1450
Houston, Texas 77027
Tel. 713 550 5710